



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,120	04/30/2001	Gregory Paul Matthews	GP-300996	1622

7590 06/16/2005

CHRISTOPHER DEVRIES  
General Motors Corporation  
Legal Staff, Mail Code 482-C23-B21  
P.O. Box 300  
Detroit, MI 48265-3000

EXAMINER

MILLER, CARL STUART

ART UNIT	PAPER NUMBER
----------	--------------

3747

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

**Office Action Summary**

Application No.

09/845,120

Applicant(s)

FOLKERTS

Examiner

Carl S. Miller

Art Unit

3747

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi in view of Foley and Kolmanovsky ('958).

In particular, the applicant should see Figure 1 of Taguchi which includes a torque sensor (29), a spark control (gasoline), throttle control motor, throttle position sensor and pedal position sensor. Also, the last line of the abstract makes it clear that the object of the device is to keep torque constant with changes in the capacity of the engine.

Kolmanovsky teaches that it is known in the art to use a reference torque model as part of a system that positions an intake throttle. Since Taguchi is also sensing torque and positioning the throttle to keep torque constant it would have been obvious to include such a model in the control system of Taguchi.

Foley teaches a cylinder cutout which keeps the intake valves closed to disable individual cylinders. Since stopping the airflow to individual cylinders is now a common way to disable the cylinder it would have been obvious to use in Taguchi.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3747

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi in view of Kato ('296), Kolmanovsky and Foley. Taguchi, Kolmanovsky and Foley apply as noted and Kato teaches the well-known use of an encoder to sense the position of an accelerator pedal, thereby making this type of sensor an obvious choice for Taguchi.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7 and 9-14 are rejected under 35 U.S.C. 103(a) being unpatentable over Taguchi in view of Kolmanovsky, Yamanaka('633) and Foley.

Taguchi, Kolmanovsky and Foley apply as noted above. Yamanaka teaches another variable displacement engine (having 8 cylinders) which also cuts out cylinders in order to vary the effective displacement of the engine. Yamanaka is also a gasoline engine and includes an air mass sensor that is used to set the desired torque by using this parameter to sense engine load. As noted in the Abstract, an actuator is used to reposition the throttle in order to let in more air with less cylinders actuated in order to keep torque constant. Both Yamanaka and Taguchi would use some type of servo and feedback control to reposition the throttle valve. Finally, models or maps are used to

Art Unit: 3747

select the torque based upon the load (air flow) and other parameters (including other load parameters) as illustrated by the teachings of Kolmanovsky.

It would have obvious to use an airflow sensor as a load input for calculating desired torque in Taguchi because Taguchi also talks about setting a desired torque even though he does not detail how this is set.


Applicant's arguments filed April 4, 2005 have been fully considered but they are not persuasive.

In particular, while the issue of a reference torque model was considered in the last office action (and was included in Claim 12) a specific reference showing such a model was not applied. Kolmanovsky has now been applied to teach this limitation. Finally, Kolmanovsky includes a feedback control on the throttle positioner and a servo would have been an obvious way to use the motor to position the throttle.

Since the use of new art against the claims was not entirely precipitated by applicant's amendment this action has been made non-final.

Any inquiry regarding this communication or earlier communications from the examiner should be directed to Carl S. Miller whose telephone number is 571-272-4849. The examiner can be reached on MTWTHF.

Miller



Carl S. Miller  
Primary Examiner